NAVSEA
NAVAL SEA SYSTEMS COMMAND

SEA 05
Naval Systems Engineering Directorate

Naval Systems Engineering Directorate
SEA 05: CTO within the R&SE Competency Alignment

2 August 2007

Mr. Brian Persons (SES)
Executive Director R&SE (SEA 05B)
Corporate Chief Technology Officer (CCTO)
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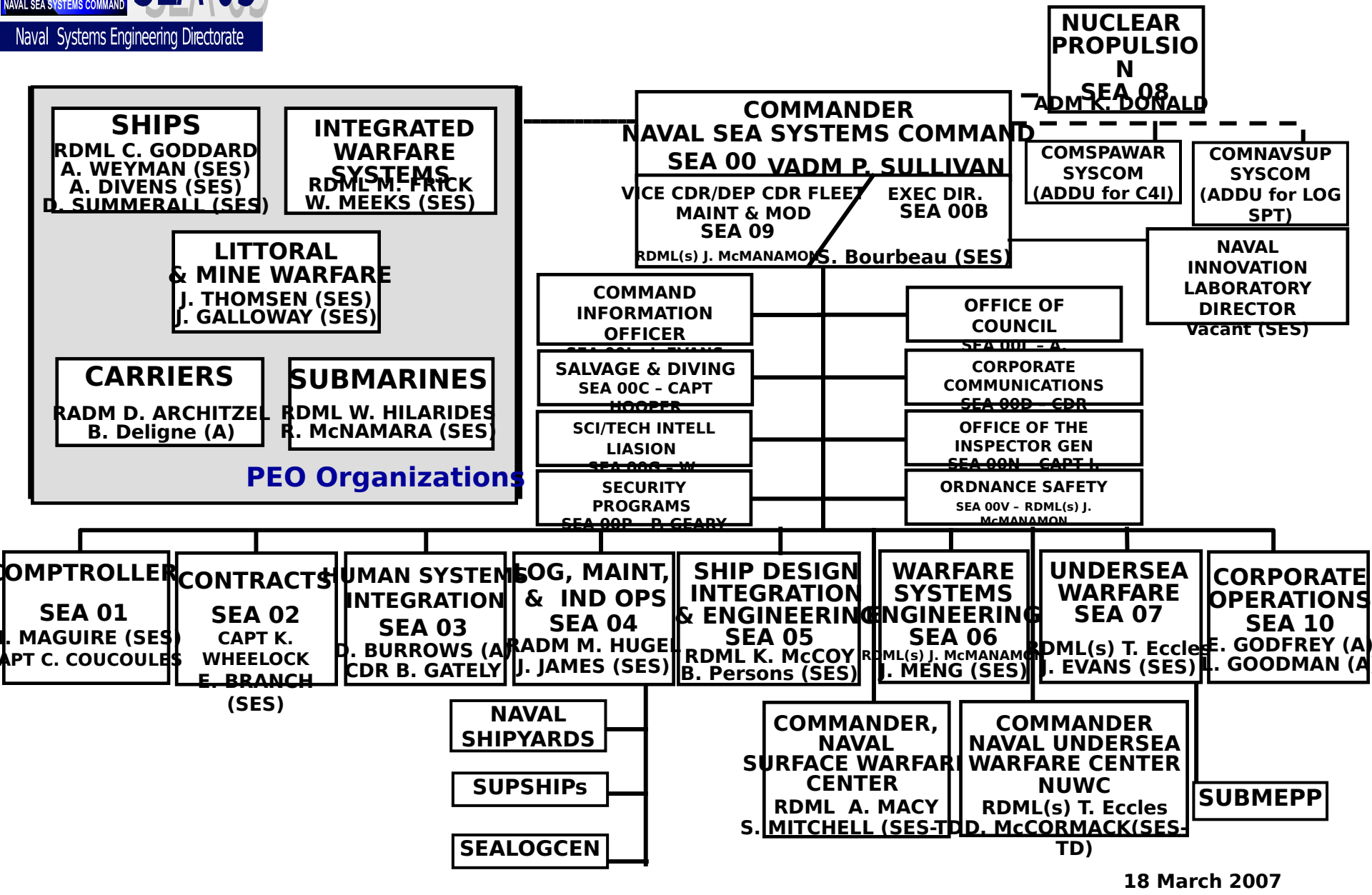
John Sofia Deputy CTO

NAVSEA Corporate Leadershi



18 March 2007

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NAVSEA Outreach To Industry

Register Your Firm and Your Products

- ✓ Obtain Data Universal Numbering Systems (DUNS)
  - ❑ **http://www.dnb.com/US/duns_update/index.html**
- ✓ Obtain Commercial and Government Entity (CAGE) Code
  - ❑ **http://www.dlis.dla.mil/cageserv.asp**
- ✓ Register in the DoD Central Contractor Registration (CCR) System
  - ❑ **http://www.ccr.gov**
- ✓ Federal Supply Classificatin Code (FSC)
  - ❑ **http://www.usabid.com/resources/tables/pscs/**
- ✓ North American Industry Classification System (NAICS)
  - ❑ http://www.sba.gov/size/indextableofsize.html#naics_determine

Find Specific Opportunities

- ✓ Navy Electronic Commerce Online (NECO)
  - ❑ https:/www.neco.navy.mil
- ✓ Federal/DoD Business Opportunities
  - ❑ http://www.fedbizopps.gov
  - ❑ **https://emall6.prod.dodonline.net/main/**
  - ❑ **https://progate.daps.dla.mil/home/**
- ✓ Subcontracting Resources
  - ❑ **http://www.acq.osd.mmil/osbp/doing_business/index.htm**
  - ❑ **http://www.sba.gov/GC/indexcontracts-subcontr**

Make It Easy For Your Customers

- ✓ Federal Supply Services (FSS)
  - ❑ **http://www.fss.gsa.gov**
- ✓ Government Charge Card Program
  - ❑ **http://www.fss,gsa.gov/services/gsa-smartpay**

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NAVY – SMALL BUSINESS PARTNERSHIPS

Totals for NAVSEA SBIR Program over past 25 years

- 1666 SBIR Topics
- 17,110 proposals received and evaluated
- 13,060 Phase I awards
- 2,585 awarded Phase IIs
- Almost 6,000 different companies have participated in NAVSEA's program since its inception.

X-TECH Advocacy for Fleet Technology Priorities

- **TECHs established to identify technology needs in their respective communities**
- **X-TECH, a coalition of TECHs to focus on joint, cross platform/community issues/technologies**

- **Surface Ships (SURFTECH)**
- **Aircraft Carriers (CARTECH)**
- **Submarines (SUBTECH)**
- **Naval Aircraft (AIRTECH)**
- **Information (I TECH)**
- **Expeditionary(NEXTECH?)**

X-TECH

SEALION II - An Example of Transition

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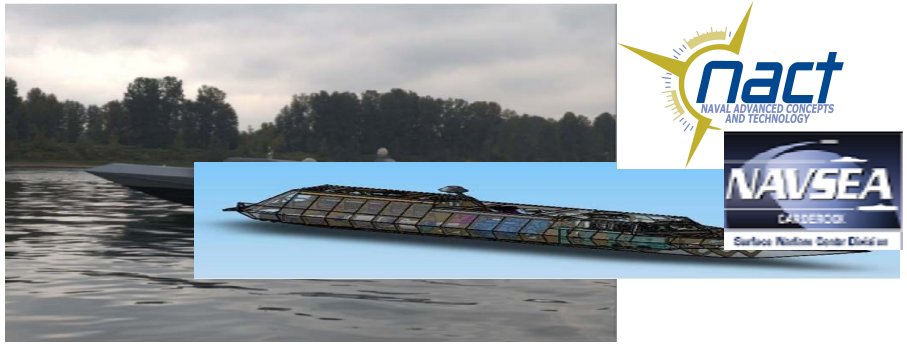


NACT NAVAL ADVANCED CONCEPTS AND TECHNOLOGY
NAVSEA CARDEROCK Surface Warfare Center Division

OREGON IRON WORKS, INC.
azimuth incorporated

Transition Status

Delivered to the U.S. Navy in January 2007.
Presently under limited operational evaluation by NSWG4.
Interest in SL1 upgrade to SL2 for doctrinal development.

Description

SEALION II is approximately 77 feet in length high-speed, high-performance planning craft operate in the littorals. Equipped with a pop-up radar, an EO/IR system, a modular mission payload bay, and a Craft Integrated Electronics Suite.

Program Management

Funded by ONR, SOCOM, and NAVSEA.

Craft designed by Naval Surface Warfare Center, Carderock Division, Combatant Craft Division, Code 233.
Craft constructed by Oregon Iron Works, Inc.
CIES designed and built by Azimuth, Inc.

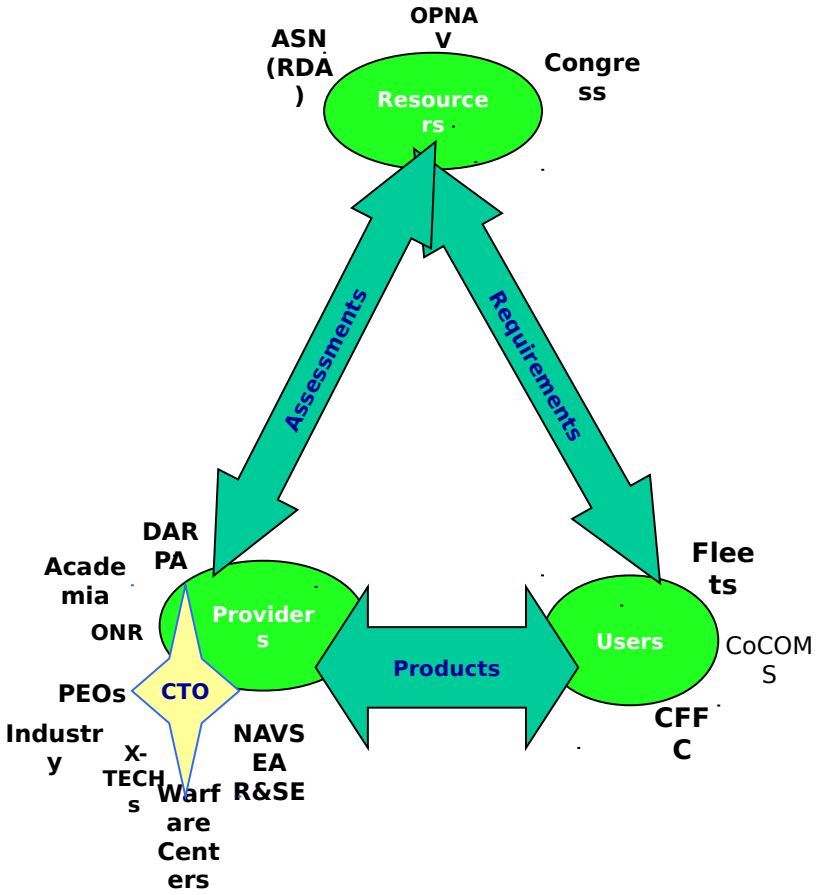
Program Manager: Michael Bosworth, NACT, NAVSEA 05D1, 202-459-7590

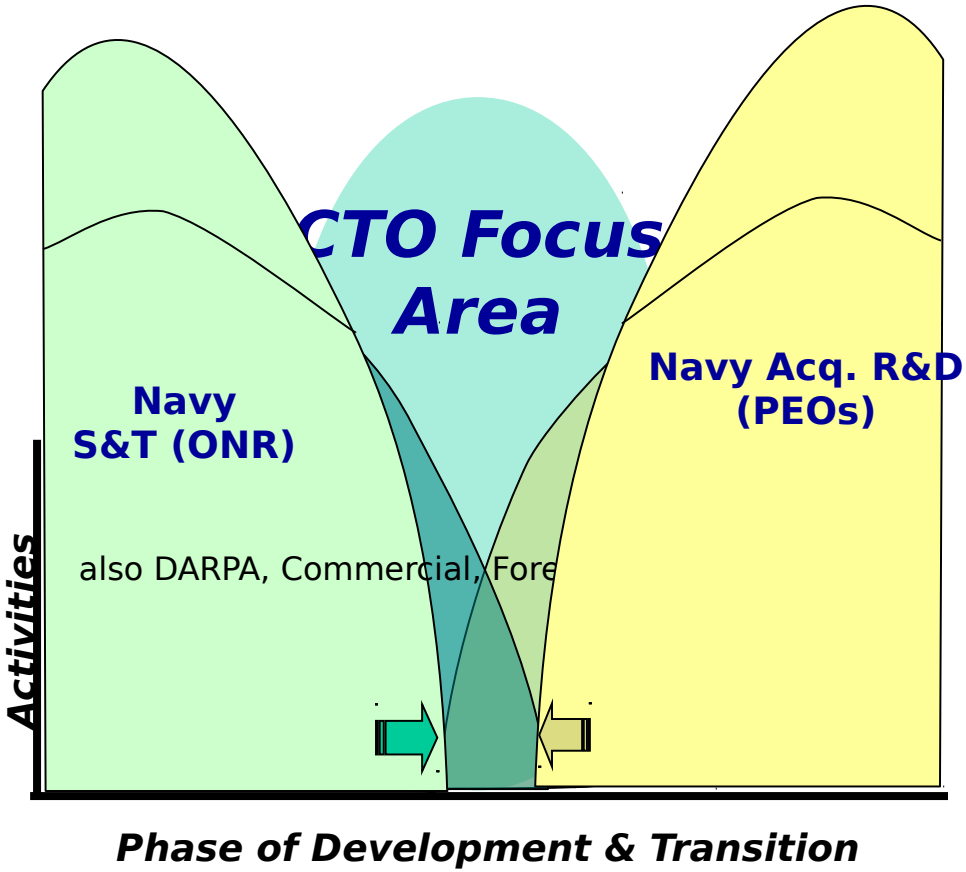
Early Fleet Input + Spiral Development leads to Rapid Transition to Development

CTO Core Functions 2007

- A focused corporate NAVSEA Technology Vision within NAVSEA PEO responsibility
- Alignment of NAVSEA PEO S&T/R&D investments to meet capability gaps for Navy Now, Navy Next and Navy After Next
- Champion for technologies with cross NAVSEA & PEO application
  - Independent assessment for technology
  - Advocacy for technology and transition
  - Maturation of technologies not aligned to a specific class of ship
  - Identification of funding shortfalls in critical technology areas

CTO Demand Signals, Stakeholders & Primary Focus





SEA Enterprise CTO provides & receives demand signals across multiple organizations, providing dialog across triad

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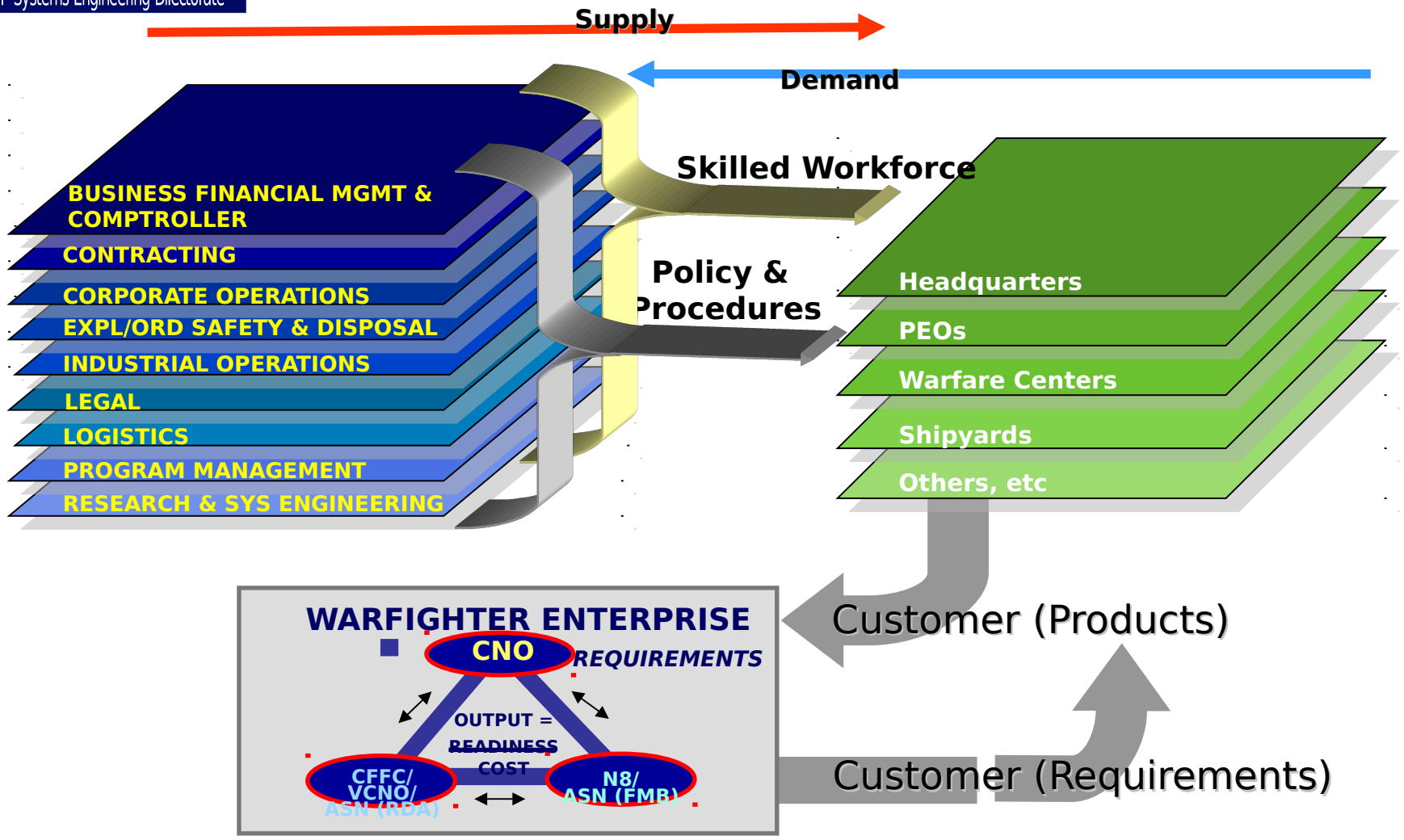
NAVSEA Competency Model



R&SE Is One Of Nine Competency Domains

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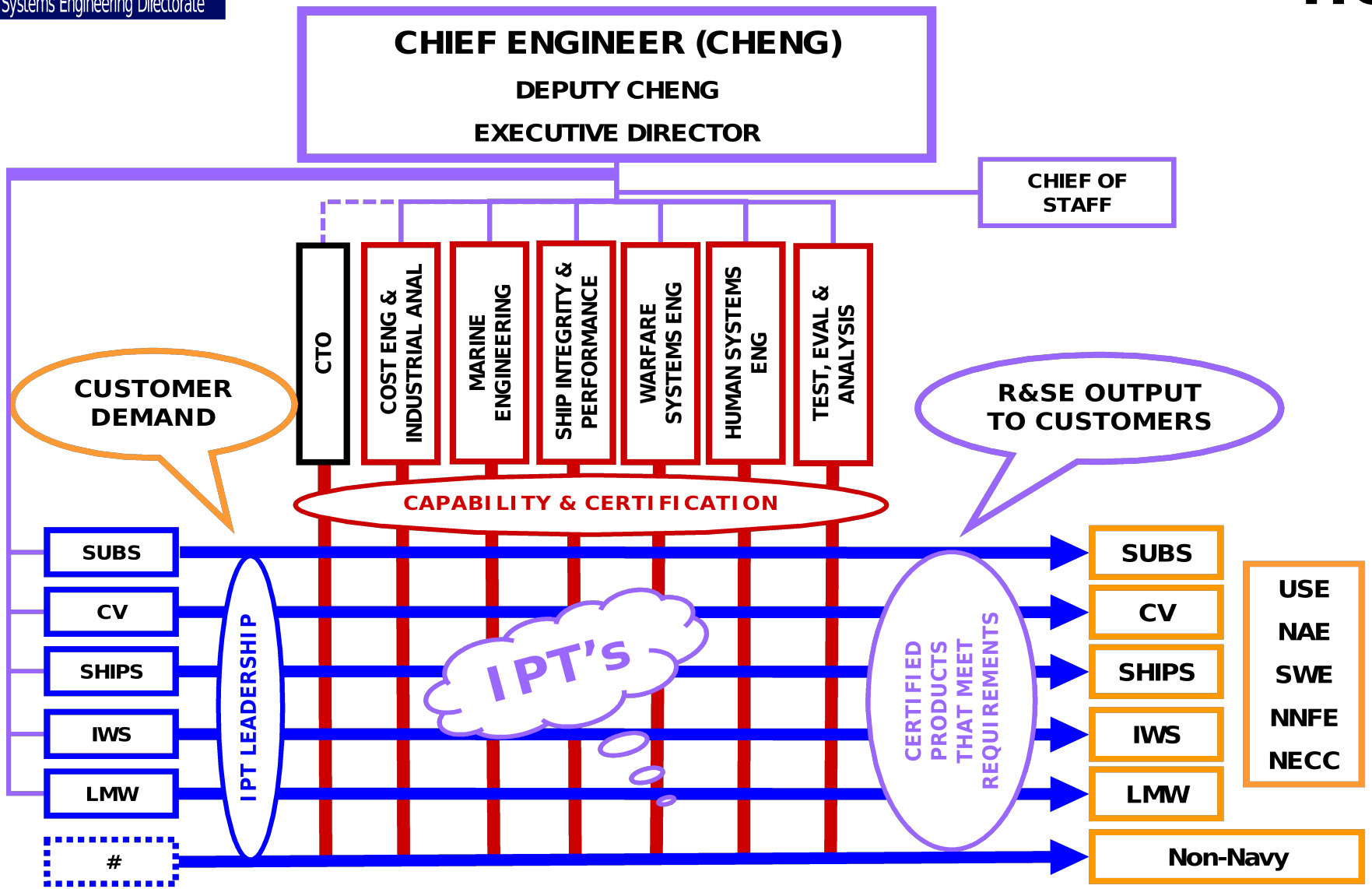
NAVSEA R&SE Competency HQ

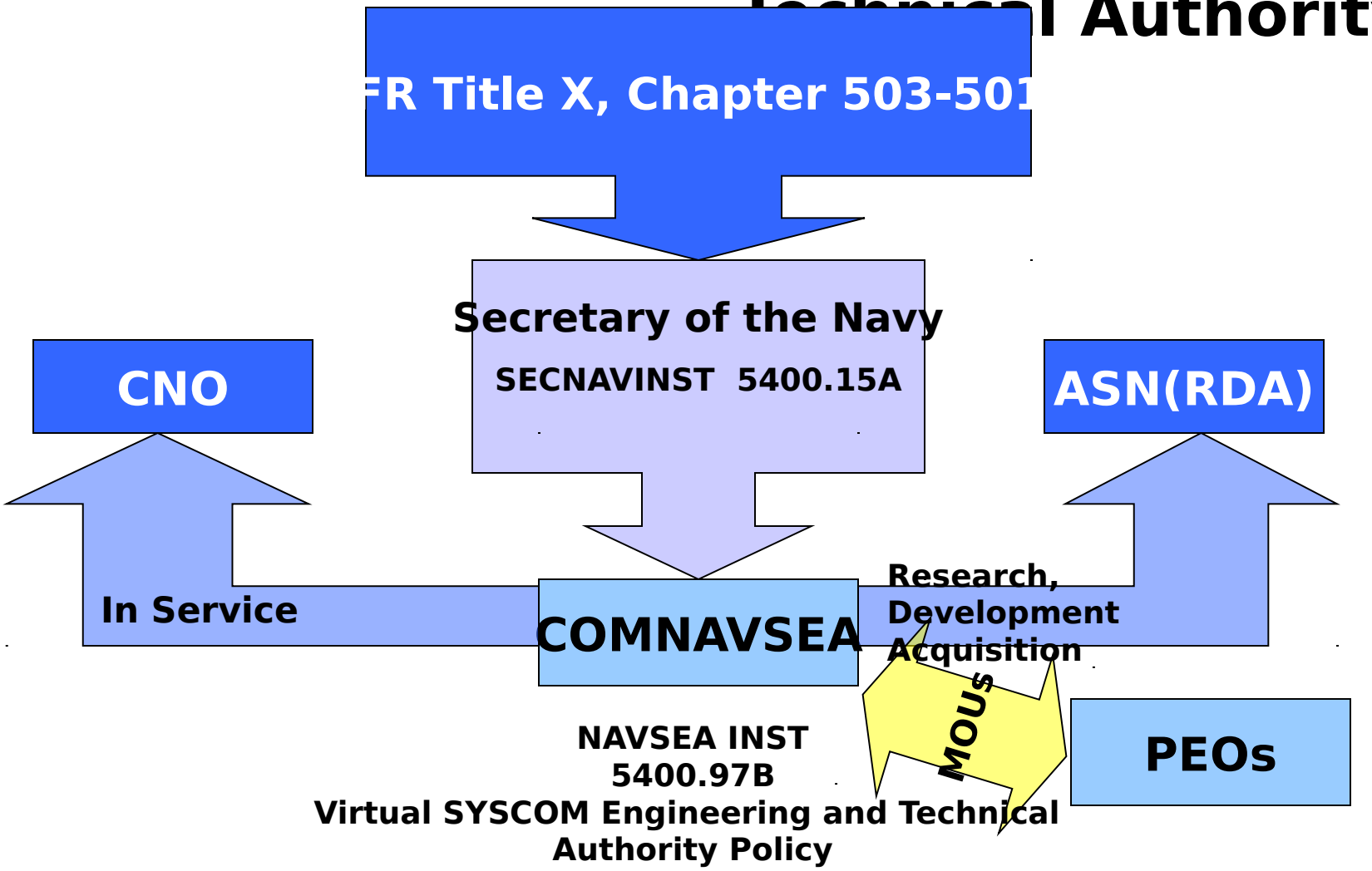


Summary

- Alignment with Warfare Enterprise construct
- Renewed emphasis on Technology Transition and communication with S&T/R&D Stakeholders
- Smarter use of available resources
  - Increased readiness at reduced cost
  - Renewed emphasis on managing workforce development and sustainment
- Focus on process improvement, needs Industry insights

BACK UP

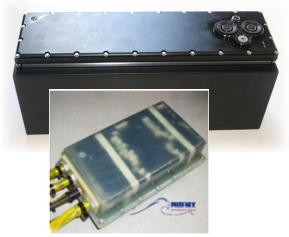
NAVSEA Requirement to Execute Technical Authority



Technical Authority Gone Bad

SBIR

Pressure-Tolerant Batteries for Autonomous Undersea Applications



These SBIR Companies developed pressure tolerant packs using the (then new) Lithium Polymer cells for the Navy. In this approach, the cells themselves experience the full ambient ocean pressure, thus eradicating the requirement for a pressure vessel. These rechargeable batteries are modular and reconfigurable for various platforms.

SBIR Topic N04-053
Phoenix Intl, Inc & Bluefin Robotics Corporation

Solicitation 04.1 NAVSEA (NUWC)			
Phase I	2004	$155k	SBIR
Phase II	2005	$744k	SBIR
Phase III	2006-current		$0.8m
Mission			
$4.5m/yr	Sales		

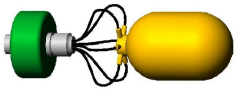
Advanced Torpedo/ Countermeasures Launching System

The vectoring afforded by airbag inflators makes the system self-contained, never requiring charging source. The resulting lightweight torpedo launcher concept has now been extended to, and testing performed for small-diameter acoustic countermeasures, anti-torpedo weapons, helicopter-launched sonobuoys for the Navy s newest multi-mission maritime helicopter, and Unmanned Aerial Vehicles (UAVs).

SBIR Topic N95-208
SEA CORP

Solicitation 95.3 NAVSEA / (NUWC) PEO Ships & SUBs			
Phase I	1996 4 Ph Is	$70k	SBIR
Phase II	1997-98	$0.71m	SBIR &
Mission			
Phase III	2002-current	$15.7m	Mission

Shear Mode Vector Sensor with Array Communication Elect



Developed a patented acoustic Vector sensor to meet the submarine community's directional sensing needs in a TB-16 form factor. The sensor eliminates left/right ambiguity while providing a bearing accuracy of 1 degree and 4.8-6.0 dB of gain over traditional hydrophones.

SBIR Topic N02-066
Wilcoxon Research, Inc.

Solicitation 02.1 NAVSEA / ONR / PEO Ships & Subs			
Phase I	2002	$100k	SBIR
Phase II	2004-2005	$600k	SBIR
Phase III	2006-current		$3m
Mission			+$0.7
Commercial			

SBIR

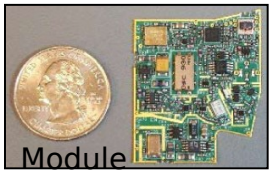
Laser-welding process control Systems

Laser-welding process control system, using both autogenous laser and hybrid (laser and gas metal arc) welding technology Automates categorization, nesting, and handling of steel plates used in the fabrication of structural shapes & provides in-process weld pool monitoring and after-weld inspection The technology is going through certification of applications on the CVN and DDG 1000 platforms.

SBIR Topic N99-141
technology Systems, inc. (tSi)

Solicitation 99.1 NAVSEA / PEO TSC			(Now PEO IWS)
Phase I	1999	$70k	SBIR
Phase II	2001	$3.2	Mission
Phase III	2002-current		
$10.8m Mission			

Projectile Inertial Navigator From COTS Instruments



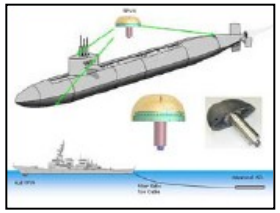
Module

A High Anti-jam (Aj) GPS Guidance electronics unit (Geu) with miniaturized Availability Anti-Spoofing (SAASM) GPS receivers and GPS anti-jam modules for precision guidance munitions. Offers high-performance, small size, power and efficiency for precision guided munitions with decreased Production costs Supports the Ballistic Trajectory Extended Range Munitions (BTERM II) Program and seeks to replace the existing NATO standard fuze on existing stockpiled munitions

SBIR Topic N01-077
Mayflower Communications Company, Inc.

Solicitation 01.1 NAVSEA / PEO Ships, IWS & SUBs			
Phase I	2001 4 Ph Is	$280k	SBIR
Phase II	2002	$1.1m	SBIR & Mission
Phase III	2002-current	$15.7m	Mission

Sparsely Populated Volumetric Array



Sparsely Populated Volumetric Array for Submarine and Surface Vessel Acoustic Intercept. Part of the demonstration of improved Performance Sonar (iPS) and production systems of Scaled iPS, SPVA has been installed on five Navy destroyers and is scheduled to be installed on over 40 more over the next several years.

SBIR Topic N98-106
Advanced Acoustic Concepts Incorporated

Solicitation 98.1 NAVSEA / NUWC			
Phase I	1998	$70k	SBIR
Phase II	2000-2001	$770k	SBIR
Phase III	2002-current		$37m
Mission			

SBIR

Active Emissions (AE) Signal Processor

The development of an Active Emissions (AE) Signal Processor which can fully exploit the full detection, localization and contact tracking potential of the Virginia Class Submarine and will also target the future development of other Multi-Sensor Active Intercept (MSAI) Sonar Systems.

SBIR Topic N00-049
Progeny Systems, Inc.

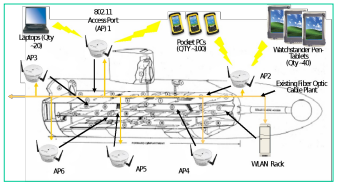
Solicitation 00.1 PEO SUB			
Phase I	2000	$ 70k	SBIR
Phase II	2001	$ 0.7m	SBIR
Phase III	2003-current	$72.2m	Mission

Combat System (SIM/STIM) Simulation/Stimulation Software

Developing innovative techniques for Combat System (SIM/STIM) Simulation/Stimulation software to allow the interface with new types of targets. A complete combat system interface simulation/stimulation facility that can provide inputs and responses for use during system development, integration, test and operator training.

SBIR Topic N95-052
Digital System Resources, Inc.

Solicitation 95.1 PEO- SUB			
Phase I	1995	$70k	SBIR
Phase II	1996	$ 0.7m	SBIR
Phase III	1998-current	$15.0m	Mission



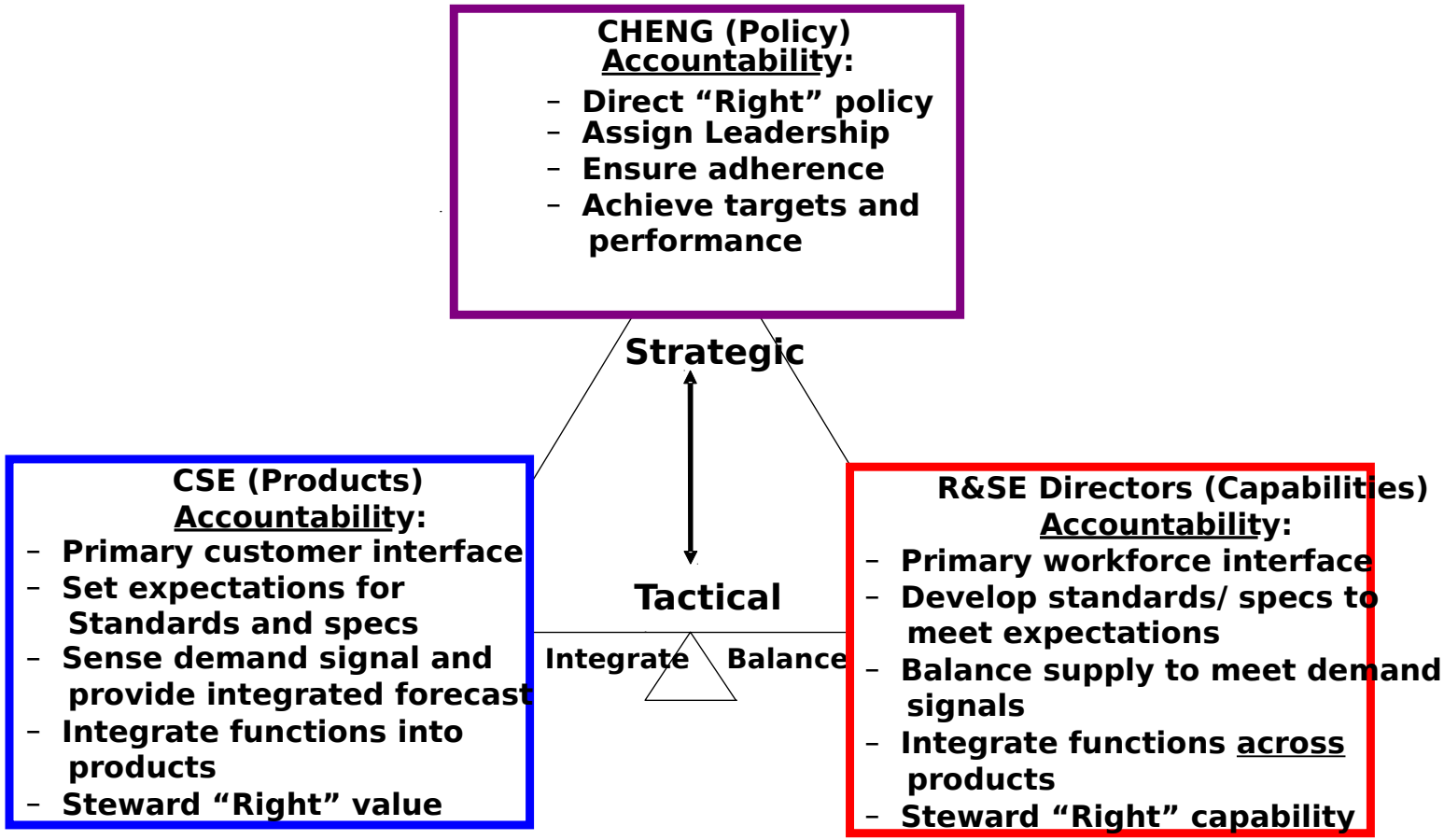
Mobile Computing for Submarine Applications(NTDPS)

Development and Maintenance of Telepresence System to help in reducing a ships manning and training requirements by providing on-line access to off-hull maintenance and repair resources. The main focus is wireless networking onboard submarines. A tablet computer can be used to track the status of compartment rigs on a submarine. A PDA can provide sailors with wireless connectivity to documents/procedures needed to do their work.

SBIR Topic N99-106
Trident Systems, Inc.

Solicitation 99.1 PEO-SUB			
Phase I	1999	$70k	SBIR
Phase II	2001	$ 0.9m	SBIR & Mission
Phase III	2006-current	$50.0m	Mission

Interfaces/Responsibilities



All are responsible for INPUTS, THROUGHPUT, OUTPUTS and DYNAMIC FEEDBACK for continuous improvement

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NAVSEA S&T Technology Transition

NAVSEA/PEO's work closely with ONR to identify Technologies for transition using various Technology Transition venues for example:

Small Business Innovative Research (SBIR)

(need statistics on success: SBIR Lead)

Rapid Technology Transition (RTT) (request for proposals every Oct/March)

FY 07: 11 developed, 6 submitted, 2 in the "running" for approval

Technology Insertion Programs for Savings (TIPS) (request for proposals every Oct/March)

FY 07: 2 developed, 2 submitted, 1 in the "running" for approval

Future Naval Capabilities (FNC's)

PR 09: 3 of top 10 support Platform related issues

Proposed Technology solutions are developed with Industry, Academia and the Warfare Centers